

EXHIBIT 1

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TNS Analysis Shows Unwanted Robocalls Jump Nearly 50 Percent In 2019

4-5 minutes

RESTON, Va.--([BUSINESS WIRE](#))--Americans received 106.8 billion unwanted (nuisance, scam or fraud) robocalls in 2019, a 49% increase from the previous year, according to an analysis of annual data released today by [Transaction Network Services](#), Inc. (TNS). TNS analyzed more than one billion daily call events across hundreds of carriers and integrated a vast amount of data from its network traffic to deliver an objective, first-hand view of robocalling, spamming and spoofing.

“The industry, including carriers and regulators, made significant progress in authenticating calls in 2019, but work remains to be done to reduce the more than 200 million unwanted robocalls that Americans received every day last year”

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In 2019, December 10 was the top day for robocalls by volume, with 561 million unwanted calls. October was the highest volume month of 2019 with 12% of the year’s unwanted robocalls. This contrasts with 2018, when Tax Day (April 17) saw more unwanted robocalls than any other day of the year. For 2019, Tax Day didn’t break into the top 100 days for most unwanted robocalls.

Additional 2019 robocall data findings include:

- Wednesday was the highest volume day of the week, with 19% of weekly unwanted calls occurring on this day. Sunday was the lowest volume day, at 4% of weekly unwanted calls. Sunday was also the lowest volume day in 2018.
- Phoenix, Arizona received more unwanted robocalls in 2019 than any other city.
- Seattle, WA telephone numbers originated more unwanted robocalls in 2019 than any other city, followed by Columbus, Ohio and Dallas, Texas.
- California received more unwanted robocalls than any other state, followed by Texas and Ohio. In 2018, South Carolina received the most unwanted robocalls, followed by North Carolina and Georgia.
- Additionally, California telephone numbers originated more unwanted robocalls in 2019 than any other state, followed by Texas and Florida

By capturing both data from over 1 billion call events across more than 500 operators every single day and crowd-sourced feedback, the [TNS Call Guardian](#) app enables carriers who utilize it to identify more unwanted robocalls than their competitors. TNS Call Guardian is the most accurate reputation profile solution using a layered approach, big data analytics and integration of call attestation parameters from STIR/SHAKEN to deliver a better customer experience for consumers.

“The industry, including [carriers](#) and regulators, made significant progress in authenticating calls in 2019, but work remains to be done to reduce the more than 200 million unwanted robocalls that Americans received every day last year,” said Bill Versen, Chief Product Officer at Transaction Network Services. “In addition to STIR/SHAKEN, this effort will require a layered approach that

applies analytics and insights to provide data-driven recommendations on how to stop unwanted robocalls.”

About TNS

From small rural operators in the US to the largest multi-national carriers, TNS addresses the full needs of wireless and wireline operators in the US and globally. [TNS Call Guardian](#) is an industry-leading call analytics solution used by leading US wireless service providers as well as US landline providers to protect their subscribers from high risk and nuisance robocalls and deliver a superior user experience. By analyzing over one billion call events across more than 500 operators every single day and capturing crowd-sourced feedback, the Call Guardian app enables carriers to identify more unwanted robocalls than competitors. For additional information visit [here](#).